

ABSTRACT OF THE DISCLOSURE

An optical transducer comprises a light source for emitting radiant energy, a base member, and an elongate light collector positioned for receiving radiant energy from the light source. The elongate light collector comprises a tunnel formed in the base member and a collector window that extends along a length of the tunnel. Radiant energy projected by the light source is received in the tunnel through the window and is transmitted along a length of the tunnel. A portion of the transmitted radiant energy exits the tunnel to thereby vary the intensity of light along the tunnel length. At least one photosensor is positioned for detecting the amount of radiant energy at a location in the tunnel. In this manner, the intensity of radiant energy at the tunnel location is indicative of at least relative position between the incident radiant energy and the at least one photosensor.